

WHAT IS CLAIMED IS:

1. An uninterruptible power system for inputting an AC power, converting the AC power into a desired power, supplying the desired power to a load, and upon occurrence of an AC failure, converting a power from energy accumulation means into the desired power and supplying the desired power to the load, wherein the power from said energy accumulation means is passed through two serially connected boost means and thereafter the power is converted into the desired power to be supplied to the load.
2. An uninterruptible power system according to claim 1, wherein one of said two boost means is a boost converter for receiving an output of said energy accumulation means, boosting the output by switching control and supplying the boost output to the other of said two boost means.
3. An uninterruptible power system according to claim 1, wherein one of said two boost means is a boost converter for receiving an output of a rectification circuit and suppressing input current harmonics of said AC power by switching control.
4. An uninterruptible power system according to claim 3, wherein the other of said two boost means is a boost converter for receiving an output of said energy accumulation means, boosting the output by switching control, and supplying the boost output to an input side of said boost converter.

5. An uninterruptible power system according to claim 1, comprising: a rectification circuit connected to an AC power source; first boost means for boosting an output of said rectification circuit; a multi-output converter for converting an output of said first boost means into a plurality of difference DC voltages; and second boost means for feeding a power in said energy accumulation means to said first boost means upon occurrence of an AC power failure.
6. An uninterruptible power system according to claim 5, wherein said first boost means is a boost converter for receiving an output of said rectification circuit and suppressing input current harmonics of said AC power by switching control.
7. An uninterruptible power system according to claim 5, wherein said second boost means is a boost converter for receiving an output of said energy accumulation means, boosting the output by switching control, and supplying the boost output to an input side of said boost converter.
8. An uninterruptible power system comprising:
 - a rectification circuit connected to an AC power source;
 - a boost converter for receiving an output of said rectification circuit and suppressing input current harmonics by switching control;
 - an output converter for converting an output of said boost converter into a desired DC voltage to be

supplied to a load;

energy accumulation means; and

boost means for feeding a power in said energy accumulation means to said output converter upon occurrence of an AC power failure,

wherein said boost means boosts a power in said energy accumulation means and feeding the boost power to an input side of said boost converter.

9. An uninterruptible power system according to claim 8, wherein said energy accumulation means is a rechargeable battery, an electric double layer capacitor or a fuel cell.

10. An uninterruptible power system according to claim 8, wherein said output converter converts an output of said boost converter into a plurality of different DC voltages and supplying the voltages to the load.

11. An uninterruptible power system according to claim 10, wherein said energy accumulation means is a rechargeable battery, an electric double layer capacitor or a fuel cell.

12. An uninterruptible power system comprising:
a rectification circuit connected to an AC power source;

a boost converter for receiving an output of said rectification circuit and suppressing input current harmonics of said AC power by switching control;

an output converter for converting an output of said boost converter into a desired DC voltage to be supplied to a load;

energy accumulation means; and

boost means for feeding a power in said energy accumulation means to said output converter upon occurrence of an AC power failure,

wherein a portion of an output side of said output converter is coupled to a high voltage side of said boost means, said boost means is a bi-directional DC/DC converter capable of a back mode operation in a reverse direction, said boost means charges said energy accumulation means while the AC power source is normal, and while the AC power source fails, said boost means boosts a power in said energy accumulation means and discharges the boost power in an input side of said boost converter.

13. An uninterruptible power system according to claim 12, wherein a voltage on a high voltage side of the bi-directional DC/DC converter is set higher while the AC power source fails than while the AC power source is normal.

14. An uninterruptible power system according to claim 12, wherein switch means is provided between an input side of said boost converter and a high voltage side of said bi-directional DC/DC converter, while the AC power source is normal, said switch means is turned off and said bi-directional DC/DC converter performs a

voltage lowering operation to charge said energy accumulation means, and while the AC power source fails, said switch means is turned on and said bi-directional DC/DC converter performs a voltage raising operation to supply an energy in said energy accumulation means to said boost converter via said switch means.

15. An uninterruptible power system according to claim 14, wherein a voltage on a high voltage side of the bi-directional DC/DC converter is set higher while the AC power source fails than while the AC power source is normal.

16. An uninterruptible power system according to claim 12, wherein said output converter converts an output of said boost converter into a plurality of different DC voltages to be supplied to the load.

17. An uninterruptible power system according to claim 16, wherein switch means is provided between an input side of said boost converter and a high voltage side of said bi-directional DC/DC converter, while the AC power source is normal, said switch means is turned off and said bi-directional DC/DC converter performs a voltage lowering operation to charge said energy accumulation means, and while the AC power source fails, said switch means is turned on and said bi-directional DC/DC converter performs a voltage raising operation to supply an energy in said energy accumulation means to said boost converter via said

switch means.

18. An uninterruptible power system according to claim 17, wherein a voltage on a high voltage side of the bi-directional DC/DC converter is set higher while the AC power source fails than while the AC power source is normal.